



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Salt Lake District Office
2370 South 2300 West
Salt Lake City, Utah 84119



IN REPLY REFER TO:

3500
(U-027)

MAR 23 1992

Dianne R. Nielson, Geologist
Director, Utah Div. of Oil, Gas, and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84106

Dear Ms. Nielson,

Enclosed is the USGS response to the TRC's recent questions regarding the Bonneville Salt Flats Study. We will follow up on this matter in the next TRC meeting. Thank you for your assistance.

Sincerely,

Howard Hedrick

Howard Hedrick
Pony Express Resource Area Manager

RECEIVED

MAR 25 1992

DIVISION OF
OIL GAS & MINING



United States Department of the Interior

GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
Room 1016 Administration Building
1745 West 1700 South
Salt Lake City, Utah 84104

RECEIVED

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March 11, 1992

Memorandum

To: District Manager, Salt Lake District Office
Bureau of Land Management

From: District Chief, Utah District, U.S. Geological
Survey

Subject: Technical Review Committee Issues

By	Date
✓ Dist. Mgr	3/3/16
✓ Assoc. D.M.	
Public Affairs	
Planning	
✓ Resources	3-13
Operations	
Admin.	
✓ Pony Express RA	3/17
Bear River RA	
Ranger	
Steno	3/18
Best	
Phil Adlard	

Thank you for your follow-up letter regarding issues discussed at the last Technical Review Committee (TRC) meeting. Your letter references concerns which I would like to address.

First, let me assure you that we sincerely welcome an active TRC role. The U.S. Geological Survey (USGS) wants to successfully complete this project on time, and understands that if your questions are not answered, the project cannot be considered fully successful. We need your input, and the input of the TRC, to ensure that the study remains focused on providing the U.S. Bureau of Land Management with the information you need and expect.

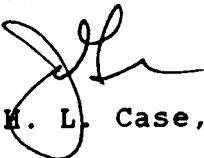
Collection of additional cores will depend on the analytical results from the cores obtained in November, the data collected during the aquifer test, and the timing of scheduled tasks. The hydrologic properties, vertical hydraulic conductivity, and specific storage of the confining beds are important for the analysis of ground-water movement between the shallow brine aquifer and the alluvial-fan aquifer. These properties were to be determined from cores collected during drilling and the analysis of aquifer-test data. The cores are being analyzed presently, and we hope to have at least preliminary results by the end of March. If the cores collected in November are not adequate to give representative values of conductivity and storage, then the only available values would be derived from the aquifer test. With any aquifer test, some degree of uncertainty exists as to whether the necessary data will be obtained. If the yield from the production well is not sufficient to produce a measured response in the confining bed, then vertical hydraulic conductivity and storage cannot be determined, and the value of data from cores is greater.

The WRD drilling crew from Denver will be working at Hill Air Force Base in March and part of April. When this drilling is completed, a decision will be made as to whether additional cores adjacent to the Salt Flats should be obtained. If representative data have been derived from either the original cores or the aquifer test, then additional cores are not necessary. However, if representative data were not obtained from the original cores and the aquifer test has not been completed, then it would be advisable to collect additional cores and take advantage of the previously paid cost of mobilization of the drill crew, thus keeping expenses to a minimum.

Data collected during drilling operations, which can be used to define stratigraphy, include geophysical logs from the four boreholes in which nested piezometers were installed, and general lithologic descriptions from cores obtained from one borehole. Representative cuttings, which can yield meaningful data, commonly cannot be obtained from mud-rotary drilling, especially in lacustrine clay deposits where the clay generally disintegrates in the drilling fluid. Therefore, we did not prepare detailed cuttings logs. A cross section is being prepared using the geophysical logs, general lithologic descriptions from the cored borehole, and the driller's log of the production well. Analysis of these stratigraphic data will provide information on the facies change from the alluvial-fan aquifer to the shallow-brine aquifer, but won't provide the hydraulic values that we hope to obtain from analysis of cores and/or the aquifer test. The collection of additional cores, which would cost about \$2,500, probably can't be justified on the basis of stratigraphic analysis alone. If the TRC has any ideas for stratigraphic analysis other than outlined above, we would be happy to discuss them.

We concur with the TRC emphasis on computer modeling as early in the study as possible. I have arranged for Ken Kipp, author of the solute-transport model HST, to be personally assigned to this project for as much time as is necessary to initiate, conduct, and complete the modeling efforts. With Ken's participation, usual "start-up time" required for hydrologists to familiarize or refamiliarize themselves with the model will not be necessary. No one in the country is more familiar with the HST model than Ken Kipp! The modeling efforts will be assigned the highest priority.

I hope this letter fully addresses your concerns. I, too, would welcome an opportunity to visit with you and discuss these or any other concerns you may have. I will be in touch.


For H. L. Case, III